

WHAT IS CLAIMED IS:

1. A liquid crystal display module, comprising:

a lamp generating light;

a light guide panel that converts an incident light from the lamp into a surface light,
said light guide panel having a first refractive index;

a low refractive index layer on the light guide panel having a second refractive index which is lower than the first refractive index, reflecting the light incident to the light guide panel on the border area; and

a reflective type of liquid crystal display panel that illuminates a picture by reflecting the light coming from the low refractive index layer.
2. The liquid crystal display module according to claim 1, wherein the low refractive index layer is adhered to the light guide panel.
3. The liquid crystal display module according to claim 1, wherein a condition in which light is totally reflected on the border surface of the light guide panel and the low refractive index layer is defined by $90^\circ - \sin^{-1}(1/\text{the first refractive index}) > \sin^{-1}(\text{the second refractive index}/\text{the first refractive index})$.
4. The liquid crystal display module according to claim 1, wherein the first refractive index is 1.7 and the second refractive index is 1.35.

5. The liquid crystal display module according to claim 1, further comprising:

a polarizing sheet on the low refractive index layer;

a phase difference compensation sheet on the polarizing sheet; and

a diffusion sheet on the phase difference compensation sheet.

6. The liquid crystal display module according to claim 5, wherein the polarizing sheet is adhered to the low refractive index layer;

the phase difference compensation sheet is adhered to the polarizing sheet; and

the diffusion sheet is adhered to the phase difference compensation sheet.

7. The liquid crystal display module according to claim 5, wherein the reflective type of liquid crystal display panel includes:

a lower substrate having a reflective electrode, the reflective electrode reflects the light going out from the low refractive layer; and

an upper substrate facing the lower substrate with liquid crystal therebetween.

8. The liquid crystal display module according to claim 5, wherein the reflective type of liquid crystal display panel includes:

an upper substrate having a reflective electrode facing the light guide panel with liquid crystal therebetween, wherein the reflective electrode reflects the light going out from the low refractive layer.

9. The liquid crystal display module according to claim 1, further comprising a condensing device located between the lamp and the light guide panel.

10. The liquid crystal display module according to claim 9, wherein a condition in which light is totally reflected on the border surface of the light guide panel and the low refractive index layer is defined by $(90^\circ - (\text{condensed angle by condensing device}) > \sin^{-1}(\frac{\text{second refractive index}}{\text{first refractive index}})$.

11. The liquid crystal display module according to claim 9, wherein the first refractive index is 1.5 and the second refractive index is 1.35.

12. The liquid crystal display module according to claim 9, further comprising:
a polarizing sheet on the low refractive index layer;
a phase difference compensation sheet on the polarizing sheet; and
a diffusion sheet on the phase difference compensation sheet.

13. The liquid crystal display module according to claim 12, wherein the polarizing sheet is adhered to the low refractive index layer;
the phase difference compensation sheet is adhered to the polarizing sheet; and
the diffusion sheet is adhered to the phase difference compensation sheet.

14. The liquid crystal display module according to claim 12, wherein the reflective type of liquid crystal display panel includes:

a lower substrate having a reflective electrode, the reflective electrode reflecting the light going out from the low refractive layer; and

an upper substrate facing the lower substrate with liquid crystal therebetween.

15. The liquid crystal display module according to claim 12, wherein the reflective type of liquid crystal display panel includes:

an upper substrate having a reflective electrode facing the light guide panel with liquid crystal therebetween, the reflective electrode reflecting the light going out from the low refractive layer.